



PTO/SB/21 (09-04)

Approved for use through 07/31/2006. OMB 0651-0031

U.S. Patent and Trademark Office; U.S. DEPARTMENT OF COMMERCE

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**TRANSMITTAL
FORM**

(to be used for all correspondence after initial filing)

Total Number of Pages in This Submission

Application Number	10/605,319
Filing Date	September 22, 2003
First Named Inventor	David G. GRIER
Art Unit	2872
Examiner Name	Arnel C. Lavarias
Attorney Docket Number	71480.00011

ENCLOSURES (Check all that apply)

- | | | |
|---|--|---|
| <input type="checkbox"/> Fee Transmittal Form
<input type="checkbox"/> Fee Attached
<input type="checkbox"/> Amendment/Reply
<input type="checkbox"/> After Final
<input type="checkbox"/> Affidavits/declaration(s)
<input type="checkbox"/> Extension of Time Request
<input type="checkbox"/> Express Abandonment Request
<input checked="" type="checkbox"/> Information Disclosure Statement

<input type="checkbox"/> Certified Copy of Priority Document(s)
<input type="checkbox"/> Reply to Missing Parts/
Incomplete Application
<input type="checkbox"/> Reply to Missing Parts
under 37 CFR 1.52 or 1.53 | <input type="checkbox"/> Drawing(s)
<input type="checkbox"/> Licensing-related Papers
<input type="checkbox"/> Petition
<input type="checkbox"/> Petition to Convert to a
Provisional Application
<input type="checkbox"/> Power of Attorney, Revocation
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<input type="checkbox"/> Landscape Table on CD | <input type="checkbox"/> After Allowance Communication to TC
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of Appeals and Interferences
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(Appeal Notice, Brief, Reply Brief)
<input type="checkbox"/> Proprietary Information
<input type="checkbox"/> Status Letter
<input checked="" type="checkbox"/> Other Enclosure(s) (please identify
below):
PTO/SB/08A, 2 pgs.
PTO/SB/08B, 5 pgs.
17 references |
|---|--|---|

Remarks

SIGNATURE OF APPLICANT, ATTORNEY, OR AGENT

Firm Name	Dickinson Wright, PLLC		
Signature	<i>Jean C. Edwards</i>		
Printed name	Jean C. Edwards, Esq.		
Date	December 15, 2004	Reg. No.	41,728

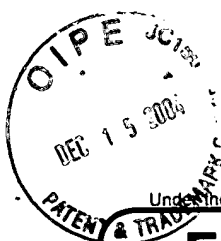
CERTIFICATE OF TRANSMISSION/MAILING

I hereby certify that this correspondence is being facsimile transmitted to the USPTO or deposited with the United States Postal Service with sufficient postage as first class mail in an envelope addressed to: Commissioner for Patents, P.O. Box 1450, Alexandria, VA 22313-1450 on the date shown below:

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PTO/SB/17 (10-04v2)

Approved for use through 07/31/2006. OMB 0651-0032
U.S. Patent and Trademark Office; U.S. DEPARTMENT OF COMMERCE

FEE TRANSMITTAL for FY 2005

Effective 10/01/2004. Patent fees are subject to annual revision.

☒ Applicant claims small entity status. See 37 CFR 1.27

TOTAL AMOUNT OF PAYMENT (\$) 180.00

Complete if Known

Application Number	10/605,319
Filing Date	September 22, 2003
First Named Inventor	David G. GRIER
Examiner Name	Arnel C. Lavarias
Art Unit	2872
Attorney Docket No.	71480.00011

METHOD OF PAYMENT (check all that apply)

☒ Check ☐ Credit card ☐ Money Order ☐ Other ☐ None

☒ Deposit Account:

Deposit
Account
Number
Deposit
Account
Name

04-1061

Dickinson Wright PLLC

The Director is authorized to: (check all that apply)

☐ Charge fee(s) indicated below ☒ Credit any overpayments

☒ Charge any additional fee(s) or any underpayment of fee(s)

☐ Charge fee(s) indicated below, except for the filing fee to the above-identified deposit account.

FEE CALCULATION

1. BASIC FILING FEE

Large Entity Fee Code (\$)	Small Entity Fee Code (\$)	Fee Description	Fee Paid
1001 790	2001 395	Utility filing fee	
1002 350	2002 175	Design filing fee	
1003 550	2003 275	Plant filing fee	
1004 790	2004 395	Reissue filing fee	
1005 160	2005 80	Provisional filing fee	

SUBTOTAL (1) (\$)

2. EXTRA CLAIM FEES FOR UTILITY AND REISSUE

Total Claims -20** = X =
Independent Claims -3** = X =
Multiple Dependent =

Large Entity Fee Code (\$)	Small Entity Fee Code (\$)	Fee Description
1202 18	2202 9	Claims in excess of 20
1201 88	2201 44	Independent claims in excess of 3
1203 300	2203 150	Multiple dependent claim, if not paid
1204 88	2204 44	** Reissue independent claims over original patent
1205 18	2205 9	** Reissue claims in excess of 20 and over original patent

SUBTOTAL (2) (\$)

**or number previously paid, if greater; For Reissues, see above

FEE CALCULATION (continued)

3. ADDITIONAL FEES

Large Entity Fee Code (\$)	Small Entity Fee Code (\$)	Fee Description	Fee Paid
1051 130	2051 65	Surcharge - late filing fee or oath	
1052 50	2052 25	Surcharge - late provisional filing fee or cover sheet	
1053 130	1053 130	Non-English specification	
1812 2,520	1812 2,520	For filing a request for <i>ex parte</i> reexamination	
1804 920*	1804 920*	Requesting publication of SIR prior to Examiner action	
1805 1,840*	1805 1,840*	Requesting publication of SIR after Examiner action	
1251 110	2251 55	Extension for reply within first month	
1252 430	2252 215	Extension for reply within second month	
1253 980	2253 490	Extension for reply within third month	
1254 1,530	2254 765	Extension for reply within fourth month	
1255 2,080	2255 1,040	Extension for reply within fifth month	
1401 340	2401 170	Notice of Appeal	
1402 340	2402 170	Filing a brief in support of an appeal	
1403 300	2403 150	Request for oral hearing	
1451 1,510	1451 1,510	Petition to institute a public use proceeding	
1452 110	2452 55	Petition to revive - unavoidable	
1453 1,370	2453 685	Petition to revive - unintentional	
1501 1,370	2501 685	Utility issue fee (or reissue)	
1502 490	2502 245	Design issue fee	
1503 660	2503 330	Plant issue fee	
1460 130	1460 130	Petitions to the Commissioner	
1807 50	1807 50	Processing fee under 37 CFR 1.17(q)	
1806 180	1806 180	Submission of Information Disclosure Stmt	180.00
8021 40	8021 40	Recording each patent assignment per property (times number of properties)	
1809 790	2809 395	Filing a submission after final rejection (37 CFR 1.129(a))	
1810 790	2810 395	For each additional invention to be examined (37 CFR 1.129(b))	
1801 790	2801 395	Request for Continued Examination (RCE)	
1802 900	1802 900	Request for expedited examination of a design application	

Other fee (specify) _____

*Reduced by Basic Filing Fee Paid

SUBTOTAL (3) (\$) 180.00

SUBMITTED BY

Name (Print/Type)	Jean C. Edwards	Registration No. (Attorney/Agent)	41,728	Telephone	202/659-6946
Signature	Jean C. Edwards	Date	December 15, 2004		

WARNING: Information on this form may become public. Credit card information should not be included on this form. Provide credit card information and authorization on PTO-2038.

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IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

In re Patent Application of:

David G. GRIER et al.

Group Art Unit: 2872

Application No.: 10/605,319

Examiner: Arnel C. Lavarias

Filed: September 22, 2003

Confirmation No.: 2318

For: APPARATUS FOR APPLYING OPTICAL GRADIENT FORCES

INFORMATION DISCLOSURE STATEMENT

MAIL STOP AMENDMENT

Commissioner for Patents

P.O. Box 1450

Alexandria, VA 22313-1450

Sir:

Pursuant to 37 CFR § 1.56, the attention of the Patent and Trademark Office is hereby directed to the references listed on the PTO/SB/08A and PTO/SB/08B. It is respectfully requested that the information be considered during the prosecution of this application, and that the references be made of record and appear among the "References Cited" on any issued patent.

The information contained on PTO/SB/08A, pages 1 and 2, and on PTO/SB/08B, pages 3 and 4, was cited in a communication from the European Patent Office in a counterpart foreign application related to parent application, U.S. Patent No. 6,055,106, issued April 25, 2000.

The references listed on the enclosed PTO/SB/08B forms, pages 5-7, were previously identified in parent applications US Patent No. 6,624,940, issued September 23 2003, and U.S. Patent No. 6,055,106, issued April 25, 2000, and copies of the references were furnished therein. Additional copies of the references on forms PTO/SB/08B, pages 5-7, are not submitted herewith, so as not to burden the file with duplicate copies of references.

English-language Abstracts of the non-English language references are attached hereto.

This Information Disclosure Statement is being filed more than three months after the U.S. filing date and after the mailing date of the first Office Action on the merits, but before the mailing date of a Final Rejection or Notice of Allowance.

Attached is a check in the amount of \$180 in payment of the fee under 37 CFR §1.17(p). Please credit or debit Deposit Account No. 04-1061 as needed to ensure consideration of the disclosed information.

Respectfully submitted,



Jean C. Edwards
Registration No. 41,728

Dickinson Wright PLLC
1901 L St., N.W., Suite 800
Washington, D.C. 20036
Telephone: 202/659-6946
Facsimile: 202/659-1559

Date: December 15, 2004



PTO/SB/08A (08-03)

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Substitute for form 1449/PTO

**INFORMATION DISCLOSURE
STATEMENT BY APPLICANT**

(Use as many sheets as necessary)

Complete if Known

Application Number	10/605,319
Filing Date	September 22, 2003
First Named Inventor	David G. GRIER
Art Unit	2872
Examiner Name	Arnel C. Lavarias
Attorney Docket Number	71480.00011

Sheet

1

of

7

U. S. PATENT DOCUMENTS

Examiner Initials*	Cite No. ¹	Document Number	Publication Date MM-DD-YYYY	Name of Patentee or Applicant of Cited Document	Pages, Columns, Lines, Where Relevant Passages or Relevant Figures Appear
		Number-Kind Code ² (if known)			
		US- 5,452,123	09-1995	Asher et al.	
		US- 5,445,011	08-1995	Ghislain et al.	
		US- 5,374,556	12-1994	Bennett et al.	
		US- 5,364,744	11-1994	Buican et al.	
		US- 5,355,252	10-1994	Haraguchi	
		US- 5,343,038	08-1994	Nishiwaki et al.	
		US- 5,245,466	09-1993	Burns et al.	
		US- 5,079,169	01-1992	Chu et al.	
		US- 5,029,791	07-1991	Ceccon et al.	
		US- 4,827,125	05-1989	Goldstein	
		US- 4,627,689	12-1986	Asher	
		US- 3,808,432	04-1974	Ashin	
		US- 3,793,541	02-1974	Ashkin et al.	
		US- 3,710,279	01-1973	Ashkin	
		US- 5,327,515	07-1994	Anderson et al.	
		US- 5,113,286	05-1992	Morrison	
		US- 5,473,471	12-1995	Yamagata et al.	
		US- 5,629,802	05-1997	Clark	
		US- 4,127,329	11-1978	Chang et al.	

FOREIGN PATENT DOCUMENTS

Examiner Initials*	Cite No. ¹	Foreign Patent Document	Publication Date MM-DD-YYYY	Name of Patentee or Applicant of Cited Document	Pages, Columns, Lines, Where Relevant Passages Or Relevant Figures Appear	T ⁶
		Country Code ³ Number ⁴ Kind Code ⁵ (if known)				
		JP 5-88107	04-1993	Ogasawara	Abstract	
		JP 9-89780	04-1997	Ysuda et al.	Abstract	

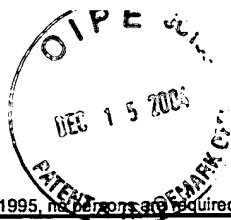
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PTO/SB/08A (08-03)

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Substitute for form 1449/PTO

**INFORMATION DISCLOSURE
STATEMENT BY APPLICANT**

(Use as many sheets as necessary)

Complete if Known

Application Number	10/605,319
Filing Date	September 22, 2003
First Named Inventor	David G. GRIER
Art Unit	2872
Examiner Name	Arnel C. Lavarias
Attorney Docket Number	71480.00011

Sheet

2

of

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U. S. PATENT DOCUMENTS

Examiner Initials*	Cite No. ¹	Document Number	Publication Date MM-DD-YYYY	Name of Patentee or Applicant of Cited Document	Pages, Columns, Lines, Where Relevant Passages or Relevant Figures Appear
		Number-Kind Code ² (if known)			
		US- 5,198,369	03-1993	Itoh et al.	
		US- 5,776,674	07-1998	Ulmer	
		US- 5,935,507	08-1999	Morito et al.	
		US- 6,076,732	06-2000	Lan et al.	
		US- 5,574,597	11-1996	Kataoka	
		US- 5,798,784	08-1998	Nonaka et al.	
		US- 5,953,166	09-1999	Shikano	
		US- 5,939,716	08-1999	Neal	
		US- 5,952,651	09-1999	Morito et al.	
		US- 5,689,109	11-1997	Raimund	
		US- 5,512,745	04-1996	Jeffrey et al.	
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Substitute for form 1449/PTO INFORMATION DISCLOSURE STATEMENT BY APPLICANT <i>(Use as many sheets as necessary)</i>		Complete if Known	
		Application Number	10/605,319
		Filing Date	September 22, 2003
		First Named Inventor	David G. GRIER
		Art Unit	2872
		Examiner Name	Arnel C. Lavarias
Sheet 3	of 7	Attorney Docket Number	71480.00011

NON PATENT LITERATURE DOCUMENTS			
Examiner Initials*	Cite No. ¹	Include name of the author (in CAPITAL LETTERS), title of the article (when appropriate), title of the item (book, magazine, journal, serial, symposium, catalog, etc.), date, page(s), volume-issue number(s), publisher, city and/or country where published.	T ²
		Patent Abstracts of Japan Vol. 1996, No. 9, 30 September 1996 & JP 08-131820A (Moritetsukusu:KK), 28 May 1996 *abstract*	
		WO 91 19413 A (Res Corp Technologies Inc.) 12 December 1991, page 18, paragraphs 2,3	
		N.R. heckengberg et al., Opt & Quant. Elect., vol. 24, S951 (1992)	
		H He, NR Heckenberg, and H Rubinsztein-Dunlop, J Mod Optics 42, 217-223 (1995)	
		H He, MEJ Frieze, NR Heckenberg, and H Rubinsztein-Dunlop, Phys Rev Let 75 826-829 (1995)(and references therein)	
		MEJ Frieze, J Enger, H Runbinsztein-Dunlop and NR Heckenberg, Phys Rev A 54 1593-1596 (1996)	
		KT Gahagan and GA Swartlander, Optics Letters 21 827-829 (1996)	
		KT Gahagan and GA Swartlander, J Opt Soc Am B-15 524-534 (1998)	
		D'Henlon et al., J Modern Optics 595-601 (1994)	
		H. Dammann and K. Gortler, Optics Comm. 3 312-318 (1971)	

Examiner Signature	Date Considered
--------------------	-----------------

*EXAMINER: Initial if reference considered, whether or not citation is in conformance with MPEP 609. Draw line through citation if not in conformance and not considered. Include copy of this form with next communication to applicant.

¹ Applicant's unique citation designation number (optional). ² Applicant is to place a check mark here if English language Translation is attached.

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		Examiner Name	Arnel C. Lavarias
Sheet 4	of 7	Attorney Docket Number	71480.00011

NON PATENT LITERATURE DOCUMENTS			
Examiner Initials*	Cite No. ¹	Include name of the author (in CAPITAL LETTERS), title of the article (when appropriate), title of the item (book, magazine, journal, serial, symposium, catalog, etc.), date, page(s), volume-issue number(s), publisher, city and/or country where published.	T ²
		M.P. Dames, R.J. Dowling, P. McKee and D. Wood, 30 2685 (1991)	
		SE Broomfield et al., Electronics Letters 28, 26-28 (1992)	
		J Gourlay, S. Samus et al., Applied Optics 33, 8251-8254 (1994)	
		H. Misawa et al., "Multibeam Laser Manipulation and Fixation of Microparticles", Appl. Phys. Lett., Vol. 60, No. 3, pp. 310-312, January 20, 1992	
		Mogensen et al., "Dynamic Array Generation and Pattern Formation for Optical Tweezers", Feb. 25, 2000, Optics Comm., pp. 75-81	

Examiner Signature		Date Considered	
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Sheet 5	of 7	Attorney Docket Number	71480.00011

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Examiner Initials*	Cite No. ¹	Include name of the author (in CAPITAL LETTERS), title of the article (when appropriate), title of the item (book, magazine, journal, serial, symposium, catalog, etc.), date, page(s), volume-issue number(s), publisher, city and/or country where published.	T ²
		D.G. Grier, "Description of Optical Tweezer Arrays and Optical Substrates Created with Diffractive Optical Elements", pp. 1-6, Dec. 22, 1997.	
		E.R. Dufresne and D.G. Grier, "Optical Tweezer Arrays and Optical Substrates Created with Diffractive Optics", pp. 1-6, Nov. 12, 1997.	
		J.H. Holtz and S.A. Asher, "Polymerized Colloidal Crystal Hydrogel Films as Intelligent Chemical Sensing Materials", Nature, Vol. 389, pp. 829-832, Oct. 23, 1997.	
		E.R. Dufresne and D.G. Grier, "Embraced by the Light: Diffractive Optical Substrates and the Hexadeca Tweezer", pp. 1-4, Oct. 22, 1997.	
		D.G. Grier, "New Age Crystals", pp. 1-2, Oct. 14, 1997.	
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		Application Number	10/605,319
		Filing Date	September 22, 2003
		First Named Inventor	David G. GRIER
		Art Unit	2872
		Examiner Name	Arnel C. Lavarias
Sheet 6	of 7	Attorney Docket Number	71480.00011

NON PATENT LITERATURE DOCUMENTS			
Examiner Initials*	Cite No. ¹	Include name of the author (in CAPITAL LETTERS), title of the article (when appropriate), title of the item (book, magazine, journal, serial, symposium, catalog, etc.), date, page(s), volume-issue number(s), publisher, city and/or country where published.	T ²
		Xiang et al., "A Combinatorial Approach to Materials Discovery", Science, Vol. 268, pp. 1738-1740, June 23, 1995.	
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		M. M. Burns et al., "Optical Matter: Crystallization and Binding in Intense Optical Fields", Science, Vol. 249, pp. 749-754, Aug. 17, 1990.	
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		Chiou, Arthur E. et al., "Interferometric optical tweezers," Optics Comm., 01 January 1997, Vol. 122, pp. 7-10	

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